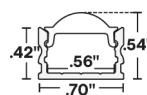




# ESSENTIALS LALO-OPTICS (02)

## STATIC WHITE

24VDC Linear Fixtures - Surface & Recessed



Declare



### INFORMATION REQUIRED FOR LIGHTING SCHEDULE

1	2	3	4	5	6
PRODUCT	WATTS/ FT	CCT	RATED	EFFICIENCY	LENS
LL2SW				STD	17DEG

### ADDITIONAL INFORMATION REQUIRED TO ORDER

7	8	9	10	11	12	13	14	15
WIRE INPUT/OUTPUT	CONNECTOR/WIRE IN	CONNECTOR/WIRE OUT	WIRE COLOR	WIRE TYPE	MOUNTING	FINISH	LENGTH (IN)	EXACT/OPTIMAL

Sample Part Number: LL2SW-3.0HE-30-DRY-STD-17-P1-BW-BW-BK-CL2-SST-BK-48"-E

1	2	3	4	5	6		
PRODUCT	WATTS/FT	CCT	RATED	EFFICIENCY	LENS		
LL2SW	1.5 3.0 4.0 5.0 1.5HE 3.0HE 6.0HE	1.5W/ft 3.0W/ft 4.0W/ft 5.0W/ft 1.5W/ft HE 3.0W/ft HE 6.0W/ft HE	20 22 24 27 30 35 40	2000K 2200K 2400K 2700K 3000K 3500K 4000K	DRY IP20	STD Standard	17DEG Optical 17°
	3.0HE+ 6.0HE+	3.0W/ft HE+ 6.0W/ft HE+	27 30 35 40	2700K 3000K 3500K 4000K			For representation of LED visibility, see Diode Visibility section on following pages. For beam angles, see Photometric Performance section on following pages. For optional snap-on louver ordering, see External Louver Accessory section on following pages
	1.5 3.0 4.0 5.0 1.5HE 3.0HE 6.0HE	1.5W/ft 3.0W/ft 4.0W/ft 5.0W/ft 1.5W/ft HE 3.0W/ft HE 6.0W/ft HE	24 27 30 35 40	2400K 2700K 3000K 3500K 4000K	DMP IP54		
	1.5 3.0 4.0 5.0	1.5W/ft 3.0W/ft 4.0W/ft 5.0W/ft	20 22 24 27 30 35 40	2000K 2200K 2400K 2700K 3000K 3500K 4000K	WET IP67	Can be suitable for exterior use, contact factory for more information	
	3.0HE+ 6.0HE+	3.0W/ft HE+ 6.0W/ft HE+	27 30 35 40	2700K 3000K 3500K 4000K			

7	8	9	10
WIRE INPUT/OUTPUT	CONNECTOR/WIRE IN	CONNECTOR/WIRE OUT	WIRE COLOR
<b>SINGLE (Input only)</b> <b>S1</b> End Feed <b>S2</b> Bottom Feed  For continuous mounting, consider bottom feed.	<b>BW</b> Bare Wire (Standard 24") <b>BRL</b> Barrel <b>CON6</b> Connector 6" <b>CON24</b> Connector 24"  BW: Standard length is 24", Max length is 120". Request custom length by writing in part number next to BW (example: BW48)	<b>CLS</b> Closed End (No feed)	<b>WH</b> White <b>BK</b> Black <b>N/A</b> For Barrel  wet barrel only available in black
<b>PASS THROUGH (Input/output)</b> <b>P1</b> End Feed <b>P2</b> Bottom Feed  For continuous mounting, consider bottom feed.	<b>BW</b> Bare Wire (Standard 24") <b>BRL</b> Barrel <b>CON6</b> Connector 6" <b>CON24</b> Connector 24"  BW: Standard length is 24", Max length is 120". Request custom length by writing in part number next to BW (example: BW48)	<b>BW</b> Bare Wire (Standard 24") <b>BRL</b> Barrel <b>CON6</b> Connector 6" <b>CON24</b> Connector 24"  BW: Standard length is 24", Max length is 120". Request custom length by writing in part number next to BW (example: BW48)	

11	12	13	14	15
WIRE TYPE	MOUNTING	FINISH	LENGTH (IN)	EXACT/OPTIMAL
<b>CL2</b> Class 2 <b>CL2P</b> Plenum Rated <b>N/A</b> For Barrel  CL2P only available with bare wire leads (BW)	<b>SST</b> Stainless Steel <b>M4</b> Low Profile Magnet <b>MG</b> Magnet	<b>ST</b> Satin <b>BK</b> Black <b>CU</b> Custom	Minimum length is 12", maximum length is 98" not including end caps. Contact us for lengths under 12".	<b>O</b> Optimal Illumination <b>E</b> Exact Specified Length  Exact fixtures match the exact length you specify, but they may have dim spots at the ends. Optimal fixtures are slightly shorter than the length specified, but provide full illumination from end to end. See Exact/Optimal Fixture Length charts.

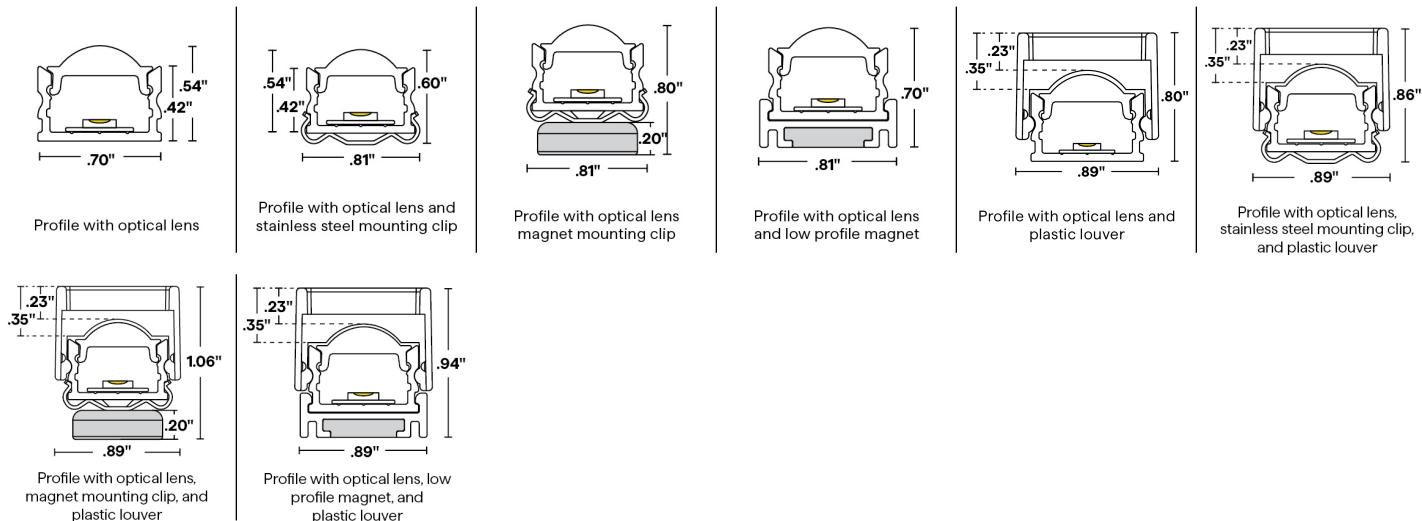
5 year warranty | Warranty only valid with QTL power supplies | Field modifications void warranty | Data subject to change, all data has +/- 5% tolerance



# ESSENTIALS LALO-OPTICS (02) STATIC WHITE

24VDC Linear Fixtures - Surface & Recessed

## 1 PRODUCT - DIMENSIONS



## 2 DELIVERED LUMENS

[Calculated L70 = 70000 hrs, L70 = 50000 for HE+]

Tested with LL2SW-\*\*-30-DRY-STD

	1.5 W/FT	1.5HE W/FT	3.0 W/FT	3.0HE W/FT	3.0HE+ W/FT	4.0 W/FT	5.0 W/FT	6.0HE W/FT	6.0HE+ W/FT									
LM/FT	CRI	LM/FT	CRI	LM/FT	CRI	LM/FT	CRI	LM/FT	CRI									
17	148	98	193	98	259	98	355	98	506	92	321	98	391	98	672	98	935	92

## 6 DIODE VISIBILITY

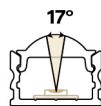


Optical lens

## PHOTOMETRIC PERFORMANCE

Nominal beam spread shown, beam spread varies based on light engine. For more detailed information, see photometric data.

17DEG



Optical 17°

## TEMPERATURE RATINGS

		1.5 W/FT		1.5 HE W/FT		3.0 W/FT		3.0 HE W/FT		3.0HE+ W/FT		6.0 HE W/FT		6.0 HE+ W/FT		4.0 W/FT		5.0 W/FT	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
DRY	Ambient Operating Temp - Surface	-4°F	140°F	-4°F	145°F	-4°F	130°F	-4°F	135°F	-13°F	136°F	-4°F	120°F	-13°F	120°F	-4°F	125°F	-4°F	120°F
DMP	Ambient Operating Temp - Surface	-4°F	135°F	-4°F	140°F	-4°F	125°F	-4°F	130°F	**	**	-4°F	115°F	**	**	-4°F	120°F	-4°F	115°F
WET	Ambient Operating Temp - Surface	-4°F	135°F	**	**	-4°F	125°F	**	**	-13°F	130°F	**	**	-13°F	115°F	-4°F	120°F	-4°F	115°F

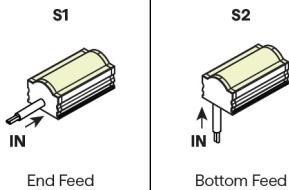


# ESSENTIALS LALO-OPTICS (02) STATIC WHITE

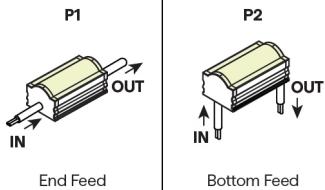
24VDC Linear Fixtures - Surface & Recessed

## 7 WIRE INPUT/OUTPUT

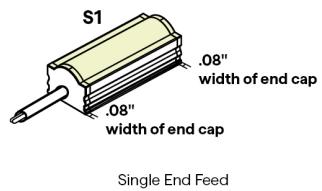
SINGLE (Input only)



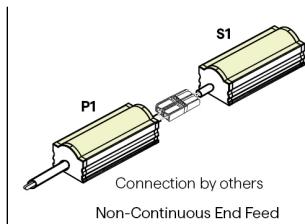
PASS THROUGH (Input/Output)



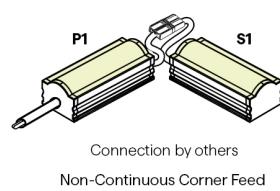
## CONFIGURATION OPTIONS



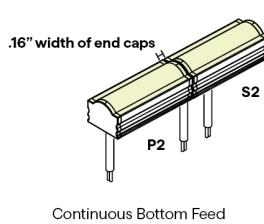
Single End Feed



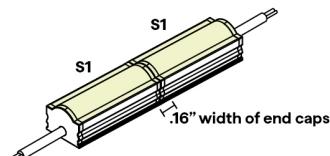
Non-Continuous End Feed



Non-Continuous Corner Feed



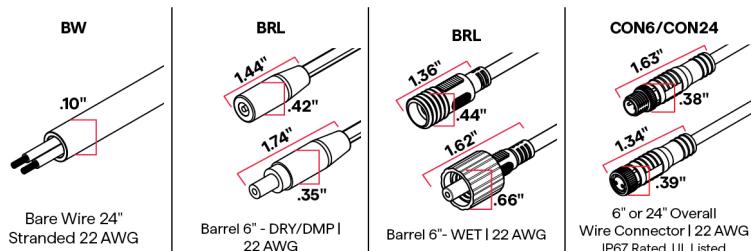
Continuous Bottom Feed



Continuous End to End Feed

## 8 / 9 CONNECTOR/WIRE – IN/OUT

Connector/Wire In or Out not needed to specify product. Standard configuration is BW for Wire In and CLS for Wire out



## 10 WIRE COLOR



White

Black

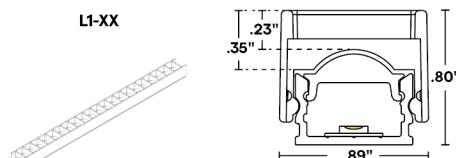
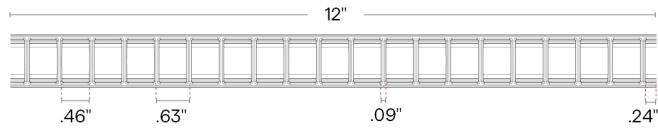


## ESSENTIALS LALO-OPTICS (02) STATIC WHITE

24VDC Linear Fixtures - Surface & Recessed

### EXTERNAL LOUVER ACCESSORY

#### PLASTIC



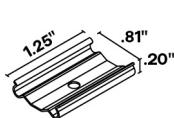
Lumen Multiplier  
WH BK

Profile with plastic louver  
To order separately use  
LALO-L1-OPTICS-KIT-WH or  
LALO-L1-OPTICS-KIT-BK

0.73 0.53

### 12 MOUNTING

#### SST



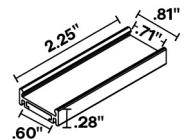
Stainless Steel Clip

2 clips provided for 4' or less; 4  
clips provided for greater than  
4'

To order separately use SST-01

Each clip comes with a #4 x  
5/8" Flat Head SS

#### M4

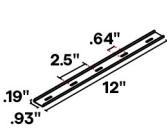


Low Profile Magnet

One M4 provided per foot.

To order separately use  
MG-04

#### MMA-04

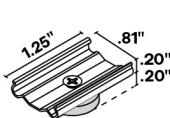


Magnet Mount  
Accessory for M4

Sold separately, to order use  
MMA-04

Each bracket comes with 2 #6  
x 5/8" Flat Head SS

#### MG



Magnet Clip

One MG provided per foot

To order separately use MG-01

#### MMA-01



Magnet Mount  
Accessory of MG-01

Sold separately, to order use  
MMA-01

Each bracket comes with 2 #6  
x 5/8" Flat Head SS

Required when mounting to a  
non-magnetic surface

### 13 FINISH



Satin

Black

Custom color available



# ESSENTIALS LALO-OPTICS (02) STATIC WHITE

24VDC Linear Fixtures - Surface & Recessed

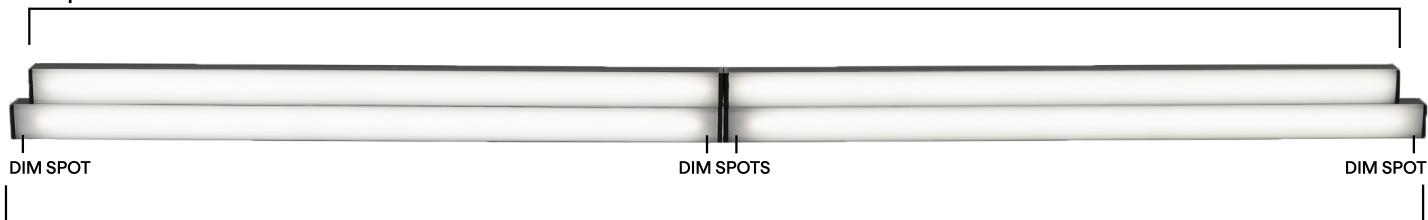
## 15 EXACT/OPTIMAL FIXTURE LENGTH

[E/O Length Calculator →](#)

[E/O Explained →](#)

Exact fixtures are the exact length specified. Optimal fixtures' length is rounded down based on LED cut points to allow the fixture to be illuminated end to end. For runs with multiple fixtures that need to fill a specific length, it's recommended to order all optimal fixtures with an exact fixture at the end of the run.

### Optimal Fixtures



### Exact Fixtures

## SW DRY, DMP LENGTHS BY INCH

Available in any length in between 12" and 98.43", chart below shows example lengths. Exact fixtures are the length specified. Optimal fixtures' length is rounded down with illumination end to end. All fixtures' tolerance is +0 - 1/8". Consult factory for lengths under 12".

### EXACT LENGTH

Requested Length	Potential dim spot on either end of fixture
12"	.5"
13"	.5"
14"	.5"
15"	.5"
16"	.5"
17"	.5"
18"	.5"
19"	.5"
20"	.5"
21"	.5"
22"	.5"
23"	.5"
24"	.5"
36"	.5"
48"	.5"
60"	.5"
72"	.5"
84"	.5"
96"	.5"

### OPTIMAL LENGTH

Requested Nominal Length	S1 & S2		P1 & P2	
	S1 End Feed	S2 Bottom Feed	P1 End Feed	P2 Bottom Feed
12"	11.41"		11.66"	
13"	12.41"		12.66"	
14"	13.41"		13.66"	
15"	14.41"		14.66"	
16"	15.41"		15.66"	
17"	16.41"		16.66"	
18"	17.41"		17.66"	
19"	18.41"		18.66"	
20"	19.41"		19.66"	
21"	20.41"		20.66"	
22"	21.41"		21.66"	
23"	22.41"		22.66"	
24"	23.41"		23.66"	
36"	35.41"		35.66"	
48"	47.41"		47.66"	
60"	59.41"		59.66"	
72"	71.41"		71.66"	
84"	83.41"		83.66"	
96"	95.41"		95.66"	



# ESSENTIALS LALO-OPTICS (02) STATIC WHITE

24VDC Linear Fixtures - Surface & Recessed

## SW WET LENGTHS BY INCH

Available in any length in between 12" and 98.43", chart below shows example lengths. Exact fixtures are the length specified. Optimal fixtures' length is rounded down with illumination end to end. All fixtures' tolerance is  $+0 - 1/8"$ . Consult factory for lengths under 12".

### EXACT LENGTH

Requested Length	Potential dim spot on either end of fixture
12"	.5"
13"	.5"
14"	.5"
15"	.5"
16"	.5"
17"	.5"
18"	.5"
19"	.5"
20"	.5"
21"	.5"
22"	.5"
23"	.5"
24"	.5"
36"	.5"
48"	.5"
60"	.5"
72"	.5"
84"	.5"
96"	.5"

### OPTIMAL LENGTH

Requested Nominal Length	S1 & S2		P1 & P2	
	S1 End Feed	S2 Bottom Feed	P1 End Feed	P2 Bottom Feed
12"	11.56"		11.71"	
13"	12.56"		12.71"	
14"	13.56"		13.71"	
15"	14.56"		14.71"	
16"	15.56"		15.71"	
17"	16.56"		16.71"	
18"	17.56"		17.71"	
19"	18.56"		18.71"	
20"	19.56"		19.71"	
21"	20.56"		20.71"	
22"	21.56"		21.71"	
23"	22.56"		22.71"	
24"	23.56"		23.71"	
36"	35.56"		35.71"	
48"	47.56"		47.71"	
60"	59.56"		59.71"	
72"	71.56"		71.71"	
84"	83.56"		83.71"	
96"	95.56"		95.71"	

## SW-HE, SW-HE+ DRY LENGTHS BY INCH

Available in any length in between 12" and 98.43", chart below shows example lengths. Exact fixtures are the length specified. Optimal fixtures' length is rounded down with illumination end to end. All fixtures' tolerance is  $+0 - 1/8"$ . Consult factory for lengths under 12".

### EXACT LENGTH

Requested Length	Potential dim spot on either end of fixture
12"	1"
13"	0.5"
14"	1"
15"	0.5"
16"	1"
17"	0.5"
18"	1"
19"	0.5"
20"	1"
21"	0.5"
22"	1"
23"	0.5"
24"	1"
36"	1"
48"	1"
60"	1"
72"	1"
84"	1"
96"	1"

### OPTIMAL LENGTH: highlighted rows are closest to requested nominal length

Requested Nominal Length	S1 & S2		P1 & P2	
	S1 End Feed	S2 Bottom Feed	P1 End Feed	P2 Bottom Feed
12"	10.41"		10.66"	
13"	12.41"		12.66"	
14"	12.41"		12.66"	
15"	14.41"		14.66"	
16"	14.41"		14.66"	
17"	16.41"		16.66"	
18"	16.41"		16.66"	
19"	18.41"		18.66"	
20"	18.41"		18.66"	
21"	20.41"		20.66"	
22"	20.41"		20.66"	
23"	22.41"		22.66"	
24"	22.41"		22.66"	
36"	34.41"		34.66"	
48"	46.41"		46.66"	
60"	58.41"		58.66"	
72"	70.41"		70.66"	
84"	82.41"		82.66"	
96"	94.41"		94.66"	



# ESSENTIALS LALO-OPTICS (02) STATIC WHITE

24VDC Linear Fixtures - Surface & Recessed

## SW-HE+ WET LENGTHS BY INCH

Available in any length in between 12" and 98.43", chart below shows example lengths. Exact fixtures are the length specified. Optimal fixtures' length is rounded down with illumination end to end. All fixtures' tolerance is  $\pm 0 - 1/8"$ . Consult factory for lengths under 12".

### EXACT LENGTH

Requested Length	Potential dim spot on either end of fixture
12"	1"
13"	0.5"
14"	1"
15"	0.5"
16"	1"
17"	0.5"
18"	1"
19"	0.5"
20"	1"
21"	0.5"
22"	1"
23"	0.5"
24"	1"
36"	1"
48"	1"
60"	1"
72"	1"
84"	1"
96"	1"

### OPTIMAL LENGTH: highlighted rows are closest to requested nominal length

Requested Nominal Length	S1 & S2		P1 & P2	
	S1 End Feed	S2 Bottom Feed	P1 End Feed	P2 Bottom Feed
12"	10.61"	10.76"		
13"	12.61"	12.76"		
14"	12.61"	12.76"		
15"	14.61"	14.76"		
16"	14.61"	14.76"		
17"	16.61"	16.76"		
18"	16.61"	16.76"		
19"	18.61"	18.76"		
20"	18.61"	18.76"		
21"	20.61"	20.76"		
22"	20.61"	20.76"		
23"	22.61"	22.76"		
24"	22.61"	22.76"		
36"	34.61"	34.76"		
48"	46.61	46.76"		
60"	58.61"	58.76"		
72"	70.61"	70.76"		
84"	82.61"	82.76"		
96"	94.61"	94.76"		

## COMPATIBLE POWER SUPPLIES

See power supplies cut sheets for more information. Data subject to change, all data has  $\pm 5\%$  tolerance.

DIM TO LEVEL	INDOOR		OUTDOOR	
	SW24/1.5-4.0	SW24/5.0, SW-HE, SW-HE+	SW24/1.5-4.0	SW24/5.0, SW-HE, SW-HE+
Dim to Black	Q6M-DC+CAP QTM-DC+CAP iQ-PH iQ-PH+QD1	Q6M-DC+CAP QTM-DC+CAP iQ-PH iQ-PH+QD1	QOM-DC+CAP QOM-PH	QOM-DC+CAP QOM-PH
0.1%	QT-CAB-QZ-PH/0-10V QT-CAB-eLED+0-10V QT-CAB-eLED+0-10V-AWN QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+0-10V QTM-eLED+0-10V-AWN QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT6-AWN QZ-BOWTIE+DIMMER QZ-DMX QZ-PH/0-10V QZ-STICK-PH/0-10V QZLP	QT-CAB-QZ-PH/0-10V QT-CAB-eLED+0-10V QT-CAB-eLED+0-10V-AWN QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+0-10V QTM-eLED+0-10V-AWN QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT6-AWN QZ-BOWTIE+DIMMER QZ-DMX QZ-PH/0-10V QZ-STICK-PH/0-10V QZLP	Q-SET-QZ-DMX Q-SET-QZ-PH/0-10V Q-SET-eLED+0-10V QOM-eLED+0-10V QOM-eLED+DALI-DT6 QOM-eLED+PS-DALI-DT6 QZ-DMX QZ-PH/0-10V	Q-SET-QZ-DMX Q-SET-QZ-PH/0-10V Q-SET-eLED+0-10V QOM-eLED+0-10V QOM-eLED+DALI-DT6 QOM-eLED+PS-DALI-DT6 QZ-DMX QZ-PH/0-10V
1%	QTM-eLED(E) QZ-DALI-DT6	QTM-eLED(E) QZ-DALI-DT6	Q-SET+QZ-DALI-DT6	Q-SET+QZ-DALI-DT6
10%	Non-Dim Power Supply with SW App Dongle	Non-Dim Power Supply with SW App Dongle	Q-HEX-mini-DC Q-SET-mLED	

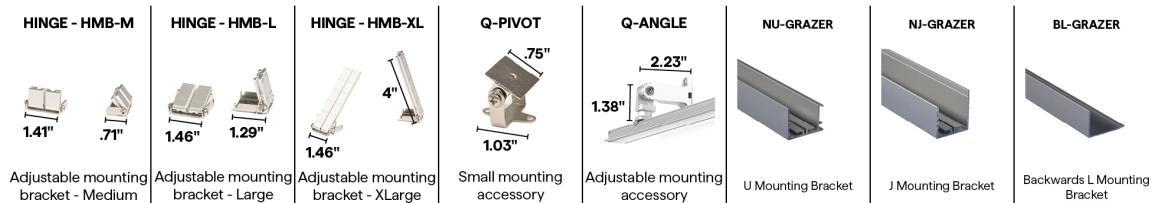


# ESSENTIALS LALO-OPTICS (02) STATIC WHITE

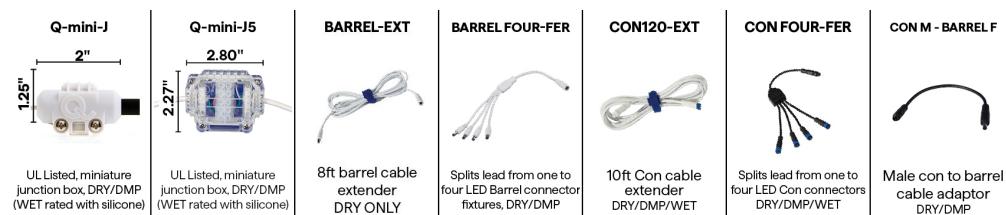
24VDC Linear Fixtures - Surface & Recessed

DIMMING PROTOCOL	INDOOR		OUTDOOR	
	SW24/1.5-4.0	SW24/5.0, SW-HE, SW-HE+	SW24/1.5-4.0	SW24/5.0, SW-HE, SW-HE+
Non-Dim	QT-CAB-eLED-ND QTM-eLED-ND QZ-ND	QT-CAB-eLED-ND QTM-eLED-ND QZ-ND	Q-SET-QZ-ND Q-SET-eLED-ND QOM-eLED-ND QZ-ND iQ-ND-50-65	Q-SET-QZ-ND Q-SET-eLED-ND QOM-eLED-ND QZ-ND iQ-ND-50-65
Phase	Q6M-DC+CAP QT-CAB-QZ-PH/0-10V QTM-DC+CAP QTM-eLED(E) QZ-BOWTIE+DIMMER QZ-PH/0-10V QZ-STICK-PH/0-10V QZLP iQ-PH iQ-PH+QD1	Q6M-DC+CAP QT-CAB-QZ-PH/0-10V QTM-DC+CAP QTM-eLED(E) QZ-BOWTIE+DIMMER QZ-PH/0-10V QZ-STICK-PH/0-10V QZLP iQ-PH iQ-PH+QD1	Q-HEX-mini-DC Q-SET-QZ-PH/0-10V Q-SET-mLED QOM-DC+CAP QOM-PH QZ-PH/0-10V	Q-SET-QZ-PH/0-10V QOM-DC+CAP QOM-PH QZ-PH/0-10V
0-10V	QT-CAB-QZ-PH/0-10V QT-CAB-eLED+0-10V QT-CAB-eLED+0-10V-AWN QTM-eLED+0-10V QTM-eLED+0-10V-AWN QZ-PH/0-10V QZ-STICK-PH/0-10V QZLP	QT-CAB-QZ-PH/0-10V QT-CAB-eLED+0-10V QT-CAB-eLED+0-10V-AWN QTM-eLED+0-10V QTM-eLED+0-10V-AWN QZ-PH/0-10V QZ-STICK-PH/0-10V QZLP	Q-SET-QZ-PH/0-10V Q-SET-eLED+0-10V QOM-eLED+0-10V QZ-PH/0-10V	Q-SET-QZ-PH/0-10V Q-SET-eLED+0-10V QOM-eLED+0-10V QZ-PH/0-10V
Lutron Athena	QT-CAB-eLED+0-10V-AWN QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+0-10V-AWN QTM-eLED+DALI-DT6-AWN	QT-CAB-eLED+0-10V-AWN QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+0-10V-AWN QTM-eLED+DALI-DT6-AWN		
ECO System	QTM-eLED(E)	QTM-eLED(E)		
DMX	QZ-DMX	QZ-DMX	Q-SET-QZ-DMX QZ-DMX	Q-SET-QZ-DMX QZ-DMX
DALI-2: DT6	QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT6-AWN QZ-DALI-DT6	QT-CAB-eLED+DALI-DT6 QT-CAB-eLED+DALI-DT6-AWN QTM-eLED+DALI-DT6 QTM-eLED+DALI-DT6-AWN QZ-DALI-DT6	Q-SET+QZ-DALI-DT6 QOM-eLED+DALI-DT6	Q-SET+QZ-DALI-DT6 QOM-eLED+DALI-DT6
SCENE App Dimmed	Non-Dim Power Supply with SW App Dongle	Non-Dim Power Supply with SW App Dongle		

## COMPATIBLE MOUNTING ACCESSORIES



## COMPATIBLE WIRING ACCESSORIES





## ESSENTIALS LALO-OPTICS (02) STATIC WHITE

24VDC Linear Fixtures - Surface & Recessed

### COMPATIBLE CONTROL ACCESSORIES

#### SCENE APP DONGLE



Wi-Fi or Bluetooth  
Connectivity